### INTERNATIONAL SEARCH REPORT

International application No. PCT/FI 2003/000690

#### A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04L 27/26
According to International Patent Classification (IPC) or to both national classification and IPC

#### **B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

# IPC7: H04L, H04Q, H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

## SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## EPO-INTERNAL, WPI DATA, PAJ, INSPEC, XPI3E

#### C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |  |
|-----------|--|-----------------------|--|
| A         | US 2003142764 A1 (PETER A. KEEVILL ET AL),<br>31 July 2003 (31.07.2003), figures 36,37,<br>see sections[0240-0248]                         | 1-20                  |  |
|           |  |                       |  |
| A         | EP 0903898 A2 (SAMSUNG ELECTRONICS CO., LTD.), 24 March 1999 (24.03.1999), page 4, column 6, line 36 - page 5, column 7, line 17, abstract | 1-20                  |  |
|           |  |                       |  |
| A         | US 6470030 B1 (JAE HYEOK PARK ET AL),<br>22 October 2002 (22.10.2002), figures 7,12  | 1-20                  |  |
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| Х   | Further documents are listed in the continuation of Box  | C.  | X See patent family annex.  |
|---|--|-----|---|
| * "A" "E" "L" "O"   | Special categories of cited documents:  document defining the general state of the art which is not considered to be of particular relevance earlier application or patent but published on or after the international filing date document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) document referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date claimed | "Y" | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art document member of the same patent family |
| Date of the actual completion of the international search  24 February 2004   |  |     | of mailing of the international search report  2 7 -02- 2004  |
| Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86 |  | Mar | rized officer  Kus Stålö/mj  hone No. +46 8 782 25 00   |

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| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No |
|-----------|--|----------------------|
| A         | Michael Speth et al "Optimum Receiver design for OFDM-Based Broadband Transmission-Part II: A Case Study"  | 1-20                 |
|           | IEEE TRANSACTIONS ON COMMUNICATIONS, Vol. 49, No. 4, April 2001. See abstract  |                      |
|           |  |                      |
| E,X       | Ludwig Schwoerer et al "Fast Scrattered Pilot<br>Synchronization for DVB-T and DVB-H"<br>Proc. 8th International OFDM Workshop, Hamburg,<br>Germany, 24-25 Sept. 2003.<br>See the whole document | 1-20                 |
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

24/12/2003

International application No. PCT/FI 2003/000690

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| EP | 0903898    | A2         | 24/03/1999 | CN<br>CN<br>JP<br>KR<br>KR | 1110148 B<br>1209001 A<br>11163771 A<br>160557 Y<br>224863 B | 28/05/2003<br>24/02/1999<br>18/06/1999<br>15/11/1999<br>15/10/1999 |
| US | 6470030    | B1         | 22/10/2002 | EP<br>JP<br>WO             | 1070400 A<br>2002513242 T<br>9956424 A                       | 24/01/2001<br>08/05/2002<br>04/11/1999                             |

Form PCT/ISA/210 (patent family annex) (January 2004)